

Trishormomya crataegifolia¹ (Felt), a Redescription of Adult and Immature Stages²

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Trishormomya crataegifolia was originally described by Felt (1907) as *Hormomyia crataegifolia*, who later transferred it to the genus *Trishormomya* in 1920. This species of cecidomyiid forms the thorn cockscomb gall on *Crataegus* (Winterringer, 1961). The immature stages were collected on *Crataegus mollis* (Torrey & Gray) Scheele, from Mahomet, Champaign County, Illinois. An adequate key to the adults is given in Felt (1920). No key to the immature stages is presented here, since the immature stages are not known for any of the other species of *Trishormomya*, except for a very limited description of a larva of *T. terruca* by Felt (1920).

Felt's original description of this species was very limited; thus the authors feel a redescription of the adults, in addition to a description of the immature stages, is desirable as a precursor to a future paper on the life history and bionomics of this species.

Trishormomya crataegifolia (Felt)

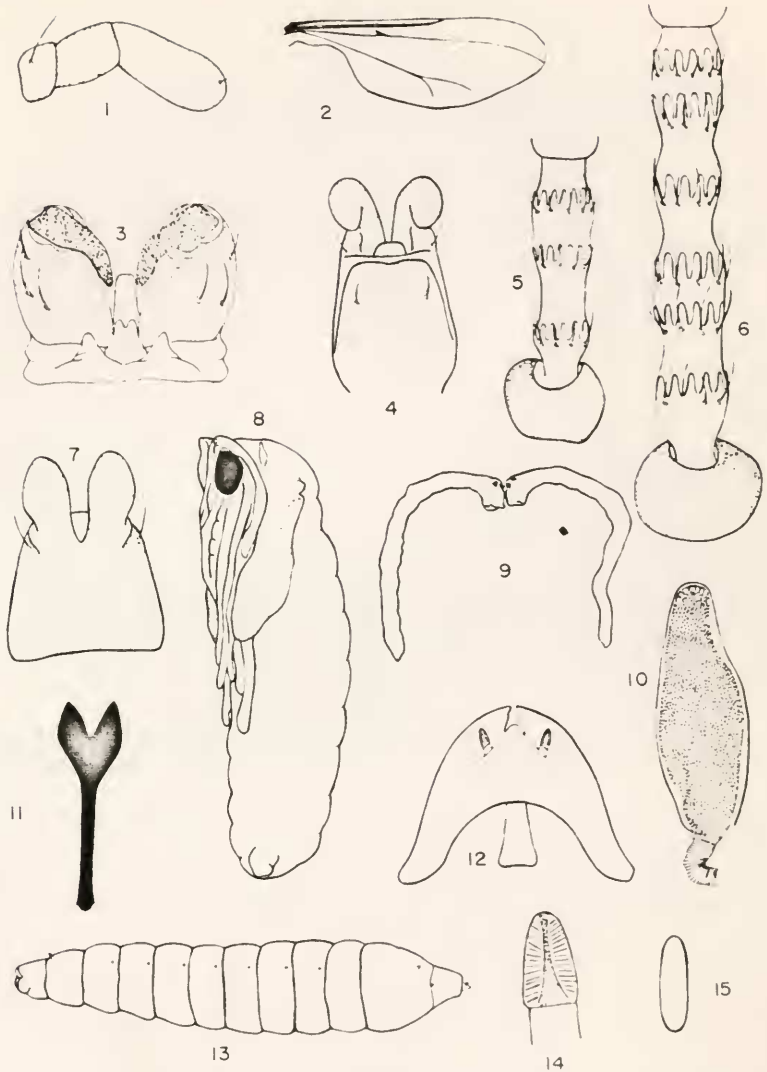
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¹ Cecidomyiidae: Diptera.

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FIGS. 1-15. *Trishormomya crataegifolia* (Felt). FIG. 1. Maxillary palp of male; FIG. 2. Wing venation of male; FIG. 3. Male terminalia, dorsal view; FIG. 4. Female terminalia, dorsal view; FIG. 5. Male antenna, second basal segment and first flagellar segment; FIG. 6. Female antenna, second basal segment and fused first and second flagellar segments; FIG. 7. Female terminalia, ventral view; FIG. 8. Pupa, lateral view; FIG. 9. Antennal sheath of pupa, ventral view; FIG. 10. Respiratory apparatus of pupa, lateral view; FIG. 11. Spatula of larva, ventral view; FIG. 12. Head of larva, dorsal view; FIG. 13. Larva, lateral view; FIG. 14. Antenna of larva, dorsal view; FIG. 15. Egg, dorsal view.

ADULTS

Male.—Length (exclusive of antennae) 2.8 ± 0.017 mm. Head dark brown; black, oval; eyes black, bare, holoptic over length of three facets posterior to base of antennae; facets of equal size; ocelli absent; antennae pale brown, two basal segments, 12 flagellar segments; basal segment (scape) subrectangular, 1.5 times longer than wide; second segment (pedicel) spherical (Fig. 5) dark brown; flagellar segments binodal (Fig. 5) 3.3 times longer than wide; basal node globular (length 0.006 ± 0.0001 mm) with single whorl of setae and circumfilum; apical node subrectangular (length 0.087 ± 0.0001 mm) with two whorls of setae and circumfila; apex of apical segment acute; maxillary palpus (Fig. 1) (5:7:10) pale yellowish brown; apical segment subrectangular, rounded apically, 1.5 times longer than wide; frontoclypeus dark brown, glossy, setae absent; occipital setae in biseriate row extending from base of eyes to apex of head.

Pronotum dark brown, truncate medially, expanded laterally; mesonotum and scutellum pale to dark brown, postalar area pale yellow; vittae indistinct; acrostichal setae in biseriate row extending three-fourth length of mesonotum; prealar setae (10–12) in biseriate row; postalar setae (2–4) in uniseriate row; scutellar setae in biseriate row across dorsum of scutellum; metanotum dark brown; halteres pale yellow, covered with short, erect, brown setae.

Wing (Fig. 2) length 3.3 ± 0.004 mm, 2.8 times longer than wide; membrane hyaline, veins pale yellowish brown; alula greatly reduced; squama small, narrow, with fringe of elongate setae; anal angle rounded; humeral crossvein absent; C circumambient, broader along anterior margin; Sc lies alongside R_1 , ending in R_1 before reaching C; R_1 ends distal to fork of Cu_{1+2} and tip of Cu_1 ; R_2 ends beyond apex of wing; apex of wing rounded; Cu_{1+2} forks proximal to tip of R_1 ; pedicel length 1.1 times length of R_1 ; Cu_1 and Cu_2 end before reaching wing margin.

Legs yellowish to dark brown, elongate; basitarsus very short, equal to or shorter than fifth tarsal segment; tibial spurs and puvilli absent; empodium pulvilliform; tarsal claws simple.

Abdomen brown to dark brown, slaggreen; terminalia (Fig. 3) pale brown; ninth tergite reduced, posterior margin with two pairs of short, paramedial tubercles; basistyle broad, 1.7 times longer than width at base; dististyle dark brown, curved apically, apex black with numerous, short, fine, black setae; ventral plate elongate, tapered apically, 2.0 times longer than width at base, apex rounded.

Leg proportions	Fe	Ti	Ta ₁	Ta ₂	Ta ₃	Ta ₄	Ta ₅
I	97	108	12	67	30	18	12
II	93	95	11	54	28	17	12
III	116	111	11	74	39	22	13

Female.—Length (exclusive of antenna) 3.8 ± 0.111 mm. Head and lower part of face dark brown; eyes black, bare, holoptic over length of three facets posterior to base of antennae; antennae dark brown, two basal segments, 11 flagellar segments, two basal segments as in male, first and second flagellar segments fused (Fig. 6), remaining flagellar segments 3.0 times longer than wide; basal node globular (length 0.09 ± 0.0001 mm) with single whorl of circumfilum and setae; apical node subrectangular (length 0.06 ± 0.0001 mm) with two whorls of setae and circumfila; maxil-

² Pedicel length: the length of Cu_1 from its origin to origin of Cu_2 .

lary palpus pale yellowish brown (8:10:11), apical segment subglobose; ocelli and occipital setae as in male.

Pronotum, mesonotum and scutellum dark brown; vittae indistinct; acrostichial, prealar, postalar and scutellar setae as in male; halteres pale yellow, clavate.

Wing length 3.8 ± 0.085 mm, 2.9 times longer than wide; membranes hyaline, veins brown; pedicel of Cu_{1+2} 1.2 times length of R_1 ; other characters as in male.

Legs pale brown.

Abdomen and terminalia (Figs. 4, 7) pale yellowish brown, shagreen, tapered posteriorly; ninth tergite reduced, subrectangular; apical margin truncate; tenth tergite small, rectangular, apex truncate; cerci large, rounded apically, curved ventrally.

Leg proportions	Fe	Ti	Ta ₁	Ta ₂	Ta ₃	Ta ₄	Ta ₅
I	98	95	13	60	27	17	13
II	88	92	11	50	26	16	13
III	117	112	13	72	36	23	14

PUPA

Length 3.2 ± 0.031 mm, width 1.0 ± 0.005 mm, 3.2 times longer than wide; (Fig. 8) pale yellowish brown, wing pads and eyes black; respiratory apparatus flask shaped (Fig. 10) length 0.12 ± 0.0001 mm, width 0.04 ± 0.0001 mm, 2.4 times longer than wide; apex rounded, with several large apical vesicles; antennal sheath (Fig. 9) unsegmented, extends to base of first abdominal segment; two lateral tubercles present near base, length 0.012 mm, width 0.014 mm, 1.2 times wider than long; wing pads end at middle of third abdominal segment; abdominal tergites shagreen; posterior rounded with pair of rounded evagination for genital structures.

LARVA

Length (Fig. 13) 4.5 ± 0.182 mm, width 1.1 ± 0.041 mm, 4.1 times longer than wide; head (Fig. 12) retracted partially into thorax, length 0.134 ± 0.0044 mm, width 0.163 ± 0.0001 mm, 1.2 times wider than long; antennae (Fig. 14) short, length 0.029 ± 0.0008 mm, width 0.008 ± 0.0006 mm, 2.0 times longer than wide; basal segment rectangular, length 0.008 ± 0.0006 mm, 1.25 times wider than long; apical segment conical, apex rounded, length 0.012 ± 0.0016 mm, 1.2 times longer than wide; style broad, elongate, apex rounded, length 0.092 ± 0.0055 mm, width 0.046 ± 0.0064 mm, 2.0 times longer than wide; spatula (Fig. 11) dark brown, forked apically, apices acute 0.267 ± 0.0035 mm, width 0.069 ± 0.0025 mm, 3.3 times longer than wide; spiracles present on mesothoracic segment and abdominal segments one through eight; pseudopods absent, spinules present laterally on abdominal sternites; posterior bilobed.

EGGS

($N = 30$) Length (Fig. 15) 0.376 ± 0.002 mm, width 0.111 ± 0.002 mm, 3.4 times longer than wide; bright reddish orange, elliptical, glossy, surface smooth.

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